

CLAIMS

1. A control circuit for controlling a power-take-off of an engine driven lawn and garden vehicle, said control circuit comprising:

a multi-position ignition switch having at least an off position and a run position;

a PTO switch having an engaged position and a disengaged position for selectively engaging and disengaging said power-take-off;

a reverse switch having a forward position and a reverse position for selectively operating said vehicle in a forward or a reverse direction;

an override switch having an activation position and a non-activation position;

said control circuit providing a non-override condition when said ignition switch is in said run position and said override switch is in said non-activation position, said non-override condition preventing operation of said power-take-off when said vehicle is operating in said reverse direction;

said control circuit providing an override condition when said ignition switch is in said run position and said override switch is in said activation position, said override condition allowing operation of said power-take-off when said vehicle is operating in said reverse direction;

wherein said override condition is maintained when said vehicle transitions between said reverse and forward directions, and when said PTO switch transitions between said engaged and disengaged positions; and

wherein said override condition is released when said ignition switch is in said off position, or when said override switch is in said non-activation position.

2. The control circuit as recited in claim 1, wherein said override switch is a twist-and-pull magnetic switch having an electromagnetic coil for sustaining said magnetic switch in said activation position.

3. The control circuit as recited in claim 2, wherein said ignition switch is a key actuated ignition switch.

4. The control circuit as recited in claim 1, wherein said vehicle includes an electric PTO clutch connected to said PTO switch, said PTO clutch being responsive to said PTO switch for selectively engaging and disengaging said power-take-off.

5. The control circuit as recited in claim 4, further comprising means for disengaging said electric PTO clutch when said PTO switch is in said engaged position and said override switch is activated subsequent to said reverse switch being placed in said reverse position, said PTO clutch being re-engaged once said PTO switch has been switched from said engaged position to said disengaged position and then back to said engaged position.

6. The control circuit as recited in claim 1, wherein said engine includes a magneto connected to said PTO switch and said reverse switch, said magneto being grounded so as to disable said engine when said PTO switch is in said engaged position and said vehicle is operating in said reverse direction when said control circuit is in said non-override condition.

7. A method of operating a power-take-off of an engine driven lawn and garden vehicle, said method comprising the steps of:

(a) providing a control circuit for controlling said power-take-off, said control circuit comprising a multi-position ignition switch having at least an off position and a run position, a PTO switch having an engaged position and a disengaged position for selectively engaging and disengaging said power-take-off, a reverse switch having a forward position and a reverse position for selectively operating said vehicle in a forward or a reverse direction, an override switch having an activation position and a non-activation position, said control circuit providing a non-override condition when said ignition switch is in said run position and said override switch is in said non-activation position, said non-override condition preventing operation of said power-take-off when said vehicle is operating in said

reverse direction, said control circuit providing an override condition when said ignition switch is in said run position and said override switch is in said activation position, said override condition allowing operation of said power-take-off when said vehicle is operating in said reverse direction;

- (b) placing said ignition switch in said run position;
- (c) placing said reverse switch in said forward position to operate said vehicle in said forward direction;
- (d) placing said PTO switch in said engaged position to engage said power-take-off;
- (e) placing said override switch in said activation position to establish said override condition;
- (f) placing said reverse switch in said reverse position to operate said vehicle in said reverse direction;
- (g) maintaining operation of said power-take-off even though said vehicle is operating in said reverse direction;
- (h) placing said reverse switch in said forward position to operate said vehicle in said forward direction;
- (i) maintaining said override condition even though said vehicle has transitioned between said reverse and forward directions subsequent to said override condition having been established;
- (j) placing said PTO switch in said disengaged position so as to disengage said power-take-off;
- (k) maintaining said override condition even though said PTO switch has transitioned between said engaged and disengaged positions subsequent to said override condition having been established; and
- (l) disabling said override condition when said ignition switch is in said off position, or when said override switch is in said non-activation position.

8. The method as recited in claim 7, said vehicle including an electric PTO clutch connected to said PTO switch, said PTO clutch being responsive to said PTO switch for selectively engaging and disengaging said power-take-off, said control

circuit further comprising means for disengaging said electric PTO clutch when said PTO switch is in said engaged position and said override switch is activated subsequent to said reverse switch being placed in said reverse position, wherein said step (e) occurs after said step (f), said step (f) further including the step of disengaging said electric PTO clutch unless said PTO switch has been switched from said engaged position to said disengaged position and then back to said engaged position.

9. The method as recited in claim 7, said method further comprising the steps of:

providing a magneto for said engine; and

connecting said magneto to ground so as to disable said engine when said PTO switch is in said engaged position and said vehicle is operating in said reverse direction when said control circuit is in said non-override condition.